03050109-040

(Saluda River)

General Description

Watershed 03050109-040 is located in Pickens and Greenville Counties and consists primarily of the ***Saluda River*** and its tributaries from its origin to Big Creek. The watershed occupies 91,373 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Madison-Cecil-Davidson series. The erodibility of the soil (K) averages 0.24 and the slope of the terrain averages 25%, with a range of 2-80%. Land use/land cover in the watershed includes: 63.7% forested land, 20.6% agricultural land, 13.4% urban land, 1.0% forested wetland (swamp), 0.7% water, and 0.6% barren land.

The Saluda River is formed by the confluence of the North Saluda River and the South Saluda River Watersheds. Tributaries draining into the upper portion of this watershed include Shoal Creek, Armstrong Creek, Machine Creek (Doddies Creek), Rutledge Lake, and Coopers Creek. The Saluda River then flows through Saluda Lake in the City of Greenville, and is joined by Mill Creek and the Georges Creek watershed. Further downstream, Craven Creek, the Big Brushy Creek watershed, and Hurricane Creek drain into the river. Little Grove Creek and another Mill Creek join to form Grove Creek, which flows into the river at the base of the watershed. This watershed contains a total of 187.6 stream miles and 472.8 acres of lake waters, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
S-866	BIO	FW	SHOALS CREEK AT SR 140
S-250	P/W	FW	SALUDA RIVER AT FARR'S BRIDGE ON SC 183, 7MI NE OF EASLEY
S-314	W	FW	SALUDA LAKE, 0.5 MILES UPSTREAM OF LANDING
RL-01015	RL01	FW	SALUDA LAKE 5MI W OF GREENVILLE, 0.8MI NE OF WESTWOOD
S-315	P/W	FW	MILL CREEK AT BENT BRIDGE ROAD, BELOW CAROLINA PLATING
S-007	P/W	FW	SALUDA RIVER AT SC 81, SW OF GREENVILLE
S-267	S/W	FW	TRIB.TO SALUDA R. 300 YDS BELOW W.PELZER WWTP DSTR OF WOODCOCK RD
S-171	S/W	FW	GROVE CREEK BELOW JP STEVENS ESTES PLANT
S-774	BIO	FW	GROVE CREEK AT S-23-541
S-119	S/INT	FW	SALUDA RIVER AT S-04-178, 3.2 MILES SE WILLIAMSTON

Saluda River – There are three SCDHEC monitoring sites along this section of the Saluda River. At the upstream site ***(S-250)***, aquatic life uses are fully supported. There is a significant increasing trend in pH. A significant decreasing trend in total nitrogen concentration suggests improved conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria.

At the midstream site ***(S-007)***, aquatic life uses are fully supported. There is a significant increasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. A very high concentration of chromium was measured in the 1999 sediment sample. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal

coliform bacteria. At the downstream site ***(S-119)***, aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations.

Saluda Lake - Saluda Lake is a 500-acre impoundment on the Saluda River, with a maximum depth of approximately 40.0 ft and an average depth of approximately 7.9 ft. The lake's watershed comprises 263.0 square miles. There are two monitoring sites along Saluda Lake, and aquatic life and recreational uses are fully supported at both sites ***(S-314, RL-01015).***

Unnamed Saluda River Tributary (S-267) - Aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Mill Creek (S-315) - Aquatic life uses are not supported due to occurrences of chromium and copper in excess of the aquatic life acute standards. In addition, there is a significant decreasing trend in dissolved oxygen and a significant increasing trend in five-day biological oxygen demand. There is also a significant increasing trend in pH. Drinking water uses are not supported due to occurrences of chromium in excess of the drinking water MCL. Signs have been posted on this creek advising people to avoid swimming, wading, drinking, or other contact with water from the creek, and not to consume fish from the creek. This chromium is finding its way into the stream from groundwater contamination originating at the old Carolina Plating and Stamping site. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. In addition, there is a significant increasing trend in fecal coliform bacteria.

Grove Creek - There are two SCDHEC monitoring sites along Grove Creek. At the upstream site ***(S-171)***, aquatic life uses are fully supported. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. There is a significant increasing trend in pH. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Aquatic life uses are partially supported at the downstream site ***(S-774)*** based on macroinvertebrate community data.

Shoal Creek (S-866) - Aquatic life uses are fully supported based on macroinvertebrate community data. *A fish consumption advisory has been issued by the Department for mercury and includes portions of a stream within this watershed (see advisory p.39).*

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
SALUDA RIVER DUKE ENERGY CORP./LEE STEAM STATION PIPES #: 001-004 FLOW: M/R	SC0002291 MAJOR INDUSTRIAL
SALUDA RIVER WCRSA/PIEDMONT PLANT PIPE #: 001 FLOW: 1.200 PIPE #: 001 FLOW: 5.0	SC0023906 MAJOR DOMESTIC PROPOSED
SALUDA RIVER WCRSA/SALUDA RIVER PLANT PIPE #: 001 FLOW: 0.500	SC0034568 MINOR DOMESTIC TO BE ELIMINATED
SALUDA RIVER TOWN OF PELZER PIPE #: 001 FLOW: 0.20	SC0040797 MINOR DOMESTIC
SALUDA RIVER WCRSA/GEORGES CREEK PLT PIPE #: 001 FLOW: 3.0 PIPE #: 001 FLOW: 5.0	SC0047309 MAJOR DOMESTIC PROPOSED
SALUDA RIVER TRIBUTARY VULCAN CONSTR. MATERIALS CO. PIPE #: 002 FLOW: M/R	SCG730245 MINOR INDUSTRIAL
SALUDA RIVER TRIBUTARY DAN RIVER INC./WHITE HORSE PLT PIPE #: F10, F11, F12 FLOW: 0.50	SCG250093 MINOR INDUSTRIAL
SALUDA RIVER TRIBUTARY TOWN OF WEST PELZER PIPE #: 001 FLOW: 0.200	SC0025194 MINOR DOMESTIC
SALUDA RIVER TRIBUTARY JC COX UTILITIES/FOREST HILL PIPE #: 001 FLOW: 0.008	SC0028525 MINOR DOMESTIC
SALUDA LAKE EASLEY COMBINED UTIL./DAN L. MOOORE PIPE #: 001-010 FLOW: M/R	SCG641007 MINOR DOMESTIC
SALUDA RIVER WCRSA/GROVE CREEK PLT PIPE #: 001 FLOW: 2.0	PROPOSED MAJOR DOMESTIC (RELOCATION OF DISCHARGE)
GROVE CREEK WCRSA/GROVE CREEK PLT PIPE #: 001 FLOW: 2.0	SC0024317 MAJOR DOMESTIC

GROVE CREEK TRIBUTARY — SCG250197
CYTEC CARBON FILTERS LLC — MINOR INDUSTRIAL
PIPE #: 001-005 FLOW: 0.50

GROVE CREEK TRIBUTARY — SCG250143
DELTA MILLS/ESTES PLT — MINOR INDUSTRIAL
PIPE #: F10, F11 FLOW: 0.50

GROVE CREEK TRIBUTARY — SC0028673
UNITED UTILITES/VALLEY BROOK SD — MINOR DOMESTIC
PIPE #: 001 FLOW: 0.06

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME / ***FACILITY TYPE***	***PERMIT #*** / ***STATUS***
PIEDMONT LANDFILL, PHASE I MUNICIPAL	DWP-009 CLOSED
PIEDMONT LANDFILL, PHASE II MUNICIPAL	DWP-074 CLOSED
PIEDMONT LANDFILL, PHASE III MUNICIPAL	DWP-095 CLOSED
BLACKBERRY VALLEY LANDFILL MUNICIPAL	DWP-107 CLOSED
GRACE ROAD LANDFILL MUNICIPAL	DWP-077 CLOSED

Mining Activities

MINING COMPANY / ***MINE NAME***	***PERMIT #*** / ***MINERAL***
THOMAS SAND COMPANY RIVER ROAD PLANT INACTIVE INSTREAM DREDGING (SALUDA RIVER)	0908-07 SAND
KING ASPHALT SALUDA RIVER SITE	1328-07 SAND/RIVER
SALUDA LAKE ASSOC. SALUDA LAKE MINE	1103-77 SAND
VULCAN CONSTR. MATERIALS CO. LAKESIDE QUARRY	0064-45 GRANITE

Water Quantity

WATER USER / ***STREAM***	***REGULATED CAPACITY (MGD)*** / ***PUMPING CAPACITY (MGD)***
EASLEY COMBINED UTILITY SALUDA LAKE	10.1 15.1

Growth Potential

The Town of Pelzer and portions of the Towns of Berea, Parker, Welcome, Dunean, Gantt, Powderville, Golden Grove, Piedmont, and West Pelzer are located in this watershed. The upper area of the watershed has a fairly low potential for extensive development or intensive agricultural (other than orchards), except for nonintensive agricultural and low density residential activity along the Saluda River. The central and lower regions of the watershed have a relatively high potential for urban development; rail lines run through these areas along the Saluda River. Significant growth is projected along both sides of the Saluda River from S.C. 183 to Williamston. The Southern Connector combined with I-85 interchanges and highway improvements of U.S. 25 and S.C. 20 will continue to spur industrial and commercial growth. The Saluda River bisects the U.S. 123 high growth corridor between the Cities of Easley and Greenville.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

A TMDL was developed to determine the maximum amount of fecal coliform bacteria Mill Creek can receive from point and nonpoint sources and still meet water quality standards. Data from SCDHEC ambient monitoring station S-315 on Mill Creek shows that recreational uses are not supported due to violations of the 400/100 ml fecal coliform criterion. During the assessment period (1988-1992), 50% of the samples did not meet the fecal coliform criterion. Station S-315 is also considered impaired for aquatic life use based on observed elevated levels of zinc and chromium. However, this TMDL will address only the recreational use impairment. The target level of fecal coliform bacteria is 175 fecal coliforms/100ml. For the Mill Creek watershed, this is equivalent to a loading of 7.665 x 108 fecal coliforms/day.

Special Projects

Assessing Water Quality in the Saluda River Watershed

Furman University has recently completed a three-year project that was to determine the sources of impairments on several tributaries and reaches of the Saluda River. These impairments include high fecal coliform counts detected in the in Coronaca Creek; and an impaired macroinvertebrate community in Broad Mouth Creek. A stream sampling program was conducted in 2001, 2002, and 2003 with 182 sites sampled within the ten watersheds of the Middle Saluda River, the South Saluda River, **a small tributary to the Saluda River north of the Town of Pelzer**, Broad Mouth Creek, Big Brushy Creek, the Bush River, Scotts Creek, and the Little River; high phosphorous concentrations found in the Bush River; low dissolved oxygen levels impaired areas. Each site was sampled from 3 to 7 times for water chemistry and for total coliform, *E. coli*, and heterotrophic bacterial counts. In addition, selected sites were sampled for fish and macroinvertebrate abundance and diversity.